

# DESIGN & REHABILITATION

*A three-day workshop in design for people with spinal cord injuries*

Emily Campbell  
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For 250 years the RSA has vigorously supported good design, encouraging invention and enterprise for the common good. In the 20th century, this support was directed at championing good professional design and excellence in undergraduate design education. The RSA has now begun to explore how else — above and beyond the impact of professional excellence — society can benefit from design.

The RSA argues that design is a form of resourcefulness: a confidence in the creative process; a readiness to improvise and prototype with the resources available; a bold attitude to disorder, complexity and uncertainty; a range of expressive means, including the visual; and a keen sense of how things are made and manufactured. Further, it argues that this resourcefulness will be better distributed — and society enhanced — if design is released from its narrow definition as a professional activity, and more people acquire design capability.

In order to test this argument, the RSA identified a group who have a particular need to be resourceful, but are not designers, and invited them to participate in an experimental three-day design workshop.



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# DESIGN AND REHABILITATION

The RSA's Design & Rehabilitation project is a design training initiative for people with spinal cord injuries. It proposes that design as a discipline, or structured thought process, can address the dramatic loss of confidence and diminished motivation that may result from a sudden physical impairment, and can contribute to independence.

We anticipated that working with people with spinal cord injuries on new models of design training focused on creative resourcefulness would yield knowledge with potential for widespread replication among other groups of people whose independence, fulfilment and social participation are challenged, and who may need to be especially resourceful. In particular, the Design & Rehabilitation project aims to discover how, and how much, practical design can be usefully taught in a limited time to people who are not ready, able or inclined to study design in the formal context of university or college.

Our first test of the effectiveness of design training in building creative resourcefulness and self-reliance<sup>1</sup> was a three-day residential design workshop for eight people with spinal cord injuries, run with the support of Back Up<sup>2</sup> at the RSA from 2–4 November 2010. This is a full description of that workshop, and a report of its findings based on interviews with the participants by the RSA before and after the event.

The conclusion starting on page 24 incorporates commentary by peer reviewers from the worlds of design, disability and research. We are grateful to these peer reviewers and especially to Back Up for their support of this project. Thanks also to the eight participants for committing with gusto to the workshop and for their thoughtful and constructive reactions upon it.

## Emily Campbell

Director of Design, RSA Projects

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*If you had three days to explain design to people who've never done it before, but whom you're convinced will benefit from understanding it better, how would you spend the time?*

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## AIMS AND CONCEPT

The workshop had three aims. Firstly, to inspire spinal cord-injured people to think creatively like a designer; secondly, to give spinal cord-injured people confidence and independence by teaching them creative design tools and techniques; and thirdly, to establish an effective workshop format replicable by the RSA with other groups and/or by Back Up as part of their range of courses for spinal cord-injured people.

### The challenge: design for – with – by

Most professionals study design for at least three years, and spend a career refining what they learned by application in industry and commerce. There are critics and gurus who can explain design in a single sentence, because they've considered it for years. If you had three days to explain design to people who've never done it before, but whom you're convinced will benefit from understanding it better, how would you spend the time?

The concept of 'co-design' has recently gained orthodoxy as an answer to this question. Product and service users (not themselves designers) now regularly work with designers in workshops and insight-gathering sessions which aim to re-frame perceived problems, generate a volume of rough ideas and assess prototypes. This process of co-design depends on a supply of professional creative thinkers, often designers, who transform insights into propositions, work ideas up into prototypes, and refine the prototypes. Although the non-design-professional user can be said to have contributed creatively to the solution, the user's own creative resourcefulness and independence are not markedly enhanced.

In the more established and related process of 'user-centred' design, rather than designers working remotely from the people who will use their designs, end-users of design are carefully studied and often explicitly invited to inspire and influence designers with their characteristics, experiences and needs. Again, the designers do the creative heavy-lifting. In addition to the perceived commercial imperative of giving customers what they want, user-centred methodologies are often combined with an ambition to make design more socially inclusive; that is, deliberately to extend the benefits of design to people who may traditionally have been excluded through income, disability, age, social status, education, and so on.

The RSA wanted to push beyond the ambition of user-centred design (designing *for* people), past co-design (designing *with* people) to a more radical idea that people who are not professional designers might acquire some capability to design for themselves.

The workshop was conceived, developed and led by three designers. **Pascal Anson** is a senior lecturer at Kingston University, has ample experience of teaching design to a range of students and non-professionals, and runs his own studio in product and furniture design. **Dr. Yan-ki Lee**, Senior Research Fellow at the Royal College of Art Helen Hamlyn Centre, trained as an architect, completed her PhD on participatory design and leads a series of design 'Methods Labs' in which RCA students work with a variety of people to develop socially inclusive design solutions. **Emily Campbell**, a graphic designer by training and professional practice, is the RSA's Director of Design and author of its account of design as resourcefulness<sup>3</sup>.

These three designers proposed inverting the traditional user-centred design relationship and running an experimental workshop in which designers inspire people with disabilities to be the creative ones.

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<sup>1</sup> For the wider context and rationale of the Design & Rehabilitation project, please see Appendix 3.

<sup>2</sup> Back Up exists to help people get their life back and achieve their goals after spinal cord injury. Their services help to build confidence and independence and include mentoring, wheelchair skills training, and activity courses as well as support in getting back to work or school after an injury.

<sup>3</sup> *You know more than you think you do: design as resourcefulness & self-reliance*, RSA Projects, July 2009

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## Going into the world not as a consumer, but as a designer

With this ambition, the workshop needed to focus sharply on what it *could* influence and change in three days. Asking the novice participants to develop eight finished product designs that address their own life challenges, for example, would be unrealistic and the results easy to criticise. The workshop could, however, influence and change their way of seeing: the leaders resolved that they could help the participants see the built and manufactured environment as designable, or re-designable, and know how to start designing. For this reason, while all the exercises enforced a consideration of material production, the workshop focused less on how to execute the design of things like objects, devices or interiors, and more on how to think like a designer.

A disabled person's observation of the world is immediately different from the norm. The workshop aimed to guide disabled people in combining a personal perspective with skills of observation and analysis to find opportunities for design. Inevitably, the participants would bring unique needs and knowledge to bear on all the exercises in the workshop. The point of the workshop, however, was not to design for disability, but for participants to design anything they wanted. The workshop leaders believed that this sense of general and transferable capacity is what builds confidence, rather than a one-off success in developing something like a new wheelchair accessory or finger splint.

The sessions were planned to culminate in a design challenge to which each participant would create a personal solution. There would be pictures and sketches and completed exercises to take home. But the end result was intended to be retained largely in the minds of participants. The workshop aimed not to focus on concise problem-solving, but to help spinal cord-injured people go into the world as designers rather than consumers, with a designer's sense of what can be changed, and how.

The workshop would not constitute training in the formal sense, but would be an experience in which participants identified opportunities for design — things that could be different and could work differently — and developed some new ideas. In Gary Hurstwit's film *Objectified*, Jonathan Ive, head designer at Apple, describes designers as having a compulsion to ask of everything "Why is it like that, and not like this?" The workshop aimed to instil some of this 'designerly' spirit of enquiry into eight people untrained in design.

## Logic, not taste

The workshop deliberately set out to invoke design principles that were not about taste, but logic. It aimed to give confidence to non-designers that, even if their aesthetic or taste sensibility is weak, and even if they didn't think they could draw, the outcomes of their design process would still have value. It aimed to find and use core design values that were not about being stylish or trendy but about being right. Sessions would avoid the subjective discussion of whether participants liked or didn't like products, and concentrate instead on what is right or wrong according to core values like function, signification, comfort and so on. These values above all should be communicable and relevant to a range of people; not so subjective that only the originator can argue their case, or feels no need to on the grounds that creative work is personal and irrational. Though it dismissed taste in favour of logic as a goal, the workshop leaders anticipated that they and the participants would find plenty to like in the process.

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## THE WORKSHOP IN BRIEF

The workshop took place in a large, ground floor room in the RSA's central London premises, a group of neoclassical townhouses built in the 1770s. Many of the assignments involved working in the surrounding area — the Strand, Covent Garden, Trafalgar Square, etc.. For this residential course, most participants stayed at a hotel with accessible rooms about fifteen minutes' walk/push from the RSA on the Holborn side of Covent Garden. The workshop ran from 9.30am to 6pm, with a guest speaker at 5pm every day. Lunch was served at the RSA; evening meals were taken in wheelchair-accessible restaurants close by.

The three tutors led the workshop sessions, with assistance from **Sevra Davis**, a RSA Design team colleague, and **Marney Walker**, an occupational therapist recently graduated in design and recruited as a volunteer for the workshop. One of the eight participants was a volunteer group leader recruited by Back Up. Each day ended with a guest talk by a spinal cord-injured professional designer.

The course was advertised on the websites of Back Up and the Spinal Injuries Association. A notice about it was also circulated to the eleven UK spinal injuries units and to the RSA's database of stakeholders in the Design & Rehabilitation project. Those who registered interest in the course were sent an e-flyer<sup>4</sup> and registration form. They were interviewed in advance by the RSA about creativity, confidence, independence and design; asked, for example, to rate their creativity and confidence in overcoming their greatest challenges on a scale of 1 to 10. A week before the course started, they received a 5-page document containing information about the content of the course and practical details<sup>5</sup>, and two days before, a detailed schedule of timings.

A number of applicants to the course had tangential or distant experience of professional design. Although the RSA had hoped to recruit people with no experience of design, it was recognised that recruitment to a new course in an area broadly understood as a professional rather than amateur activity (design) would be challenging; two of these applicants were admitted.

The three workshop days were themed as Observation, Analysis and Opportunity. Each day included presentations by the tutors, practical exercises and group critical discussion. The information document outlined the approach and structure of the course, while the schedule gave the timings and titles of sessions but disclosed no details of the actual exercises. Participants were set a small piece of preparatory work in advance.

After the workshop, the participants were interviewed again by the RSA about creativity, confidence, independence and design. The data from the pre- and post-workshop interviews constitutes a major part of this report.

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<sup>4</sup> Appendix 1, page 30

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<sup>5</sup> Appendix 2, page 31

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## THE PARTICIPANTS

**Dean**, 46, was injured in 2006 at level C5<sup>6</sup>. His full-time personal assistant, Carlie, accompanied him on the workshop and participated vigorously herself. Before his injury he was a company director. Single, he is no longer employed and lists his interests and hobbies as computers, chess, astronomy and technology. He had done no Back Up courses before, nor any other training since his injury.

In advance of the workshop, he said he had thought about design all his life, and defined it as **“deciding how something should be made”**. He classified himself as creative, on the grounds that in spite of his physical injuries, he always seemed to find a way. He cited his father as the person who nurtured this creativity, putting ‘mad ideas’ and ‘nuggets’ into his head — like the phenomenon of the outside of a wheel travelling faster than the inside. **“Dad wasn’t that good practically but he would make you think.”**

Dean described himself as a confident person, and put his confidence down to being a good problem-solver who could visualise solutions in his mind. He knew, however, that he needed to be better at explaining his ideas to other people, and described his greatest challenge as getting ideas from his head into production.

Dean associated design with function, progress and change, and with systems; he had once designed a four-stroke engine which eliminated the need for valves. His motivation for doing the course was to develop a device for people with high level injuries which would transfer energy from the biceps to create grip at the hand. He linked this idea back to his discovery, as a child, of how the energy of your hands creates the brake friction of the wheel, and to his experience of power-lifting, which reinforced his sense of the body as a mechanical device.

Although Dean really wanted to do the course, he was quite apprehensive, not knowing in any detail what it would consist of or what sort of environment it would be. He had dreaded the first session (*I’ve noticed that...*) but spoke first, **“and it was fine”**. In the next session, he had to interact with 100 strangers in an hour: after that, he said, he felt he could do anything.

After the workshop, Dean said he might give himself a higher creativity rating because he felt better guided in what he should look at and for. Fresh from the course the following week, **“the course hadn’t stopped”** and was **“still going on in my head”**; he was busy designing his project, brainstorming it with his son. He said his confidence had easily gone up a notch because of the people he had met, and that awareness of the pitfalls he might encounter was offset by **“better insight”**. **“Before, I didn’t know what to do with my idea; now I’m drawing it. I can see faults that I didn’t see before. It’s really moved on.”**

**Jason**, 40, has an incomplete injury at T12 from 1997. He is single, has no care assistance needs and has recently moved into an adapted flat of his own. Before his injury he was a plasterer and general builder. Since his injury he has worked in electronic data management for the public sector, but he is currently unemployed. His interests include photography, computers, motorsport, rugby and DIY **“if I’m physically capable of doing it”**. He’d done rambles, sky-dives and water-skiing with Back Up.

In advance of the workshop, he observed that everything is designed, and he associated design with manufacture and the union of form and content. He said he had designed logos and websites, and some wall-mounted shelves for his hi-fi.

Jason admitted to having an **“in-between”** feeling on account of his partial injury (he can walk to a limited extent, although he used a wheelchair throughout the workshop).

This feeling damages his confidence. Above all Jason associated confidence with social ease and being comfortable in his surroundings, **“trying to be cheerful and happy around other people”**.

Jason was motivated to do the course because he’d always been attracted to graphic design: growing up, he used to draw things like the Ford symbol with a perfectionist’s care. More recently, he’d diverted into photography, and enjoyed sharing ideas in group discussions with his class. But he also wanted to do the course to keep himself busy, give himself a new sense of opportunity and to mix with other people.

After the course Jason said that **“in that environment, and with that frame of mind”**, he certainly felt more creative, but that it was hard to sustain amidst the preoccupations of normal life to which he had returned. He had been surprised by the course content, especially the processes of looking carefully and breaking things down. He now wanted to try not to do too many things at once, but to sit back and think about them carefully **“like a designer”**. **“When you design”**, he said, **“it slows down your way of thinking and makes it more logical”**.

Jason could readily see the confidence that design gives to professional designers like Danny Brown, Adam Thomas and David Constantine (guest speakers on the course), because they earn a living from it, and because there would be a huge boost in knowing that you’ve supplied something society needs. In terms of his own confidence, he felt strengthened by the group experience — **“everyone seemed to have ideas and we were all bouncing off each other”**. He described this as **“almost like a work environment”** and said that it made him feel better about going back to work. He also felt that he got better at dealing with the tutors’ rigorous questioning as the workshop progressed.

**Liz**, 45, has an incomplete injury at level T9 from 2005. She is a divorced single parent of teenagers and has no care needs. Before her injury she had been a teacher in further education and in secondary schools, and although she continued this work part time after her injury, she is currently unemployed. Swimming, yoga, travelling and writing are her interests, and she had done two Back Up courses before. Liz worked as a graphic designer for a book publisher in her 20s but became a teacher after her children were born.

Liz identified herself as highly creative, not only on account of formal activities like her current creative writing course, but also in her resourceful solutions to carrying her shopping, getting vegetables delivered and keeping chickens in the garden so she has less need to shop. Her injury has increased her need to be creative — she took up creative writing expressly to deal with depression and acknowledges the therapeutic effect of putting emotions into words. Although creativity has been a thread throughout her life, Liz felt that not understanding computers was an obstacle to her creativity in design — not knowing how to get the end result she wanted and needing someone else to execute her ideas.

Liz named other people’s perceptions of the worth of disabled people as her greatest challenge. She felt especially sensitive to her children’s misgivings about her condition, and said even her mother found it hard to understand why she couldn’t get a job. Her motivation to join the course was to find the confidence to **“do something”** in design again, while she was also looking forward to a break from her children, to a train ride and to the things she’d built around the trip like seeing friends in London.

Afterwards, Liz said the workshop had re-affirmed her sense of her own ability to be creative and that the deliberative atmosphere — **“hearing everyone’s opinions”** — had been very positive.



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6 Injury level is denoted by a vertebra number or numbers in one of the four vertebral segments. From the top to the bottom of the spine these segments are Cervical (C-), Thoracic (T-), Lumbar (L-) and Sacral (S-). A spinal cord injury will also be classified as complete or incomplete/partial, ie with some degree of function and sensation remaining.

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7 See page 16

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8 See page 10

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She was particularly struck by Yan-ki Lee's presentation on the social model of inclusive design<sup>7</sup>, and had focused her ambition on getting back into design in this area.

Confidence seems to have been Liz's greatest gain from the course. She was so fired up, she said, that she'd already set up a wheelchair racing club since she'd got back from London. On the first evening of the course the musician Brian May was in the restaurant the group visited for dinner, and Liz introduced herself, with a boldness she declared to be unprecedented. **"But we'd been exchanging ideas all day; I felt positive about myself; I had a good story to tell."** She also felt less self-conscious about being a paraplegic 'walker', having met two other people on the course with similar injuries.

On design in particular, Liz said that understanding a design process **"unlocks the reason behind your whacky thoughts so that you can articulate them; and it makes the world more interesting"**. She also felt that understanding design gives you independence of mind; helps you **"stick your head up and say so if something doesn't work"**. She thought spinal cord-injured people should learn design in order to appreciate both the good and the bad qualities of things, and would recommend the course **"to de-mystify and de-code design into something straightforward"**.

**Luke**, 38, has a level T6 injury from 1996 and was the volunteer group leader assigned to the design course by the Back Up Trust. An ex-RAF regiment gunner, he volunteers regularly for Back Up and other charitable initiatives. He lists his hobbies as scuba-diving and photography, and lives with his girlfriend.

Luke was open-minded and curious about the course; more aware, perhaps, of his motivational responsibility as group leader than of his own desire or need to learn design. In advance he had not thought of himself as particularly creative, although he **"had his moments"**. Thinking about things **"in that whole creative frame of mind"** during the course led him to have **"more moments"**. The workshop has prompted him to practise analysing the construction of things — a huge load carried by a lorry on the road, for example.

Luke absolutely concurred that design and confidence are related. Problem-solving can be daunting for anyone, especially disabled people, and to analyse the parts of something helps you work out what parts you can control. **"It's a powerful concept"** he said, as was the insight with which Emily Campbell opened the workshop — 'you know more than you think you do'<sup>8</sup>. He said the analysis exercises we'd performed would equally work on breaking down a disability care package and re-building it into something better. Above all, perhaps, for the veteran Back Up course leader, **"learning new skills is always a confidence-booster"**.

In describing the course to his girlfriend, Luke found that some parts remained **"unexplainable"** but that the pictures helped. It took a while, he said, for the participants to understand fully what they were doing, especially since they were non-designers quite out of place in this context. **"But it was like a film that you don't understand until the end, then it all comes together."**

**Matt**, 42, sustained a complete C4/5 injury in 1990 and requires a live-in personal assistant. Before his injury he was a technician in the printing industry; he now works as a volunteer for a local charity. He is single, and lists his interests as scuba-diving, kart skiing and travel. He has attended Back Up courses in kart skiing and a fundraising sky-diving event.

Interviewed in advance of the workshop, Matt said he thought of design as creating something new that will be functional, user-friendly and stylish, and that he had himself designed a few logos and newsletters. He identified himself as not naturally creative, but a practical lateral thinker — **"more technical than arty"**. Although his injury had made him more practically ingenious, he felt seriously blocked by his inability to draw or even use a mouse.

He cited his own brother and an ex-colleague as people who'd helped him be creative; both, he said, had **"showed me what was**

**possible"**. He also admired a close friend for being able to **"visualise anything"**.

Matt has increased his independence since his injury with the help of tools, a good wheelchair and various electronic devices. He gets confidence by pushing himself and achieving goals. He was instantly drawn to the design workshop — which was recommended by a friend — as a means of improving his knowledge and way of thinking about design. He was especially interested in the final design exercise, billed in advance as **"a single, universal design challenge"**, but unspecified.

Matt increased his own creativity rating after the workshop on the grounds of his success with the first, photographic exercise, in spite of the fact that it had puzzled him at first. He said all the exercises had been taxing to start with but that he had really got into the flow. He particularly cited the analysis exercise as mind-changing — **"Before I just thought things were cool or not — now I can see why"**. He also spotted what he called **"a real design idea"** in the restaurant concept exercise on Day 3. He was pleased with his own success in presenting ideas to the group.

He said that since the workshop he was definitely looking at things differently, and was more confident in talking about design. The workshop had also made him look around his house and think how he could design it a lot better. Asked by colleagues what he'd been designing, he replied that the course had been more about thinking, and that it had been really good. He said he'd warn anyone considering the course that it was **"pretty challenging mentally"** but worthwhile.

**Morag**, has an incomplete C6/7 injury from 2008. She is generally independent but has a part-time support worker. Before her injury she was a staff nurse on a teenage cancer ward, but she is unable to return to this job on account of her injury. She lives with a partner, has no children, and lists her interests as photography, travel, driving, motorbikes and wheelchair rugby. She had previously done a Back Up course in kayaking and a course on wildlife photography.

Morag rated her creativity highly in advance of the course, partly on the basis of her photography activities but also because of her competence in carpentry and plumbing. Through her injury she had lost her high level of manual dexterity. She didn't name any creative influences but said she had always worked on her own, independently figuring things out.

Morag described her greatest challenge as finding a new purpose in life after her injury, and her confidence in meeting this as very low: **"The job I spent three years training for is gone. I can no longer ride a motorbike. Everything has changed."** Her sense of independence was utterly lost: before, she never had to rely on anyone for anything except electrical work but now there was little she didn't need help with. Her incomplete injury meant a lot of uncertainty and was **"no use to me"**.

Morag was immediately drawn to the course as being the first thing she'd seen that related to her practical background. Since creativity had always been an inspiration, she also hoped that the course would give her confidence in finding a new direction and purpose. The appeal of the course as advertised, and this hope, were not met by her experience as a participant.

The communication style of Pascal Anson in particular conflicted with Morag's sense of creativity as expansive and in constant development. She felt inhibited and frustrated by the way her ideas were greeted, and that neither she nor other participants were treated as individuals. She described the workshop exercises as **"confusing"** and claimed that others were also struggling to comprehend what was required. The workshop made her withdraw, she felt misunderstood, and she left feeling creatively and socially less confident than before.

Morag felt that the information given to participants in advance had given an overly optimistic view of how much the workshop would contribute to participants' being able to change their lives and deal with difficult situations. She found many aspects of the workshop difficult to explain to her partner afterwards. Although she found most potential in the final design exercise, it was spoiled by having an idea imposed on her that was not her own.

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Morag's overall criticism was that too long was spent in the early exercises of observation and analysis and that the tutors should recognise how self-reliant and creative spinal cord-injured people are out of necessity. She thought she would have benefited from more of the later exercises in which participants really went out and designed things — perhaps a workshop starting with that would have achieved the same results.

Morag found Danny Brown and David Constantine inspirational; Danny Brown because of how he'd modified off-the-shelf devices, and David Constantine because he had succeeded in his struggle to use a camera after his injury.

**Simon**, 29, has an L1 complete injury from 2003. He is single, lives in central London, and has no care assistance needs. He was a student at the time of his injury and now works as a freelance translator. He lists his interests as canoeing, skiing, playing the piano and therapeutic bodywork. Since his injury, he's done kayaking and skiing courses with Back Up, an Economics diploma, a translation course and an internship in marketing.

Before the workshop he defined design as the process of creating something that fulfils a practical need while being aesthetically pleasing. He'd designed some ski packaging and had other ideas that he wanted to develop. The fruition of an idea was what gave him confidence, and the stagnation of ideas was what he named as his greatest challenge. He wanted to do the workshop to learn how a designer thinks and plans.

Simon described himself as always into creative stuff; exploring and getting into things. He said that skill and technique definitely constitute boundaries to creativity; that confidence definitely increases with knowing how to do things. He pointedly acknowledged the role of other people in helping him be creative: by striving to understand his position, other people were able to respond to his ideas and make them firmer. He thought his age was more significant than his injury — because he understands better how the world works as he grows older, his ideas are more practical and concrete.

After the workshop Simon said that his creativity hadn't changed but his way of looking is different. He found the tutors helpful in all the exercises, and said that he was even more curious than before about how designers work. The collaboration aspect was very useful, and he reported feeling more confidence in group working than in his individual contributions. Sharing, he said, is a good way of developing things — even geniuses expand and question their ideas that way.

Simon observed that independence is understanding something for what it is, on its own terms, not for what other people say it is. You get power from knowing why something is the way it is, and this is why it's important to understand design. He thought that spinal cord-injured people should learn design because they tend to be quite wary of the environment and its hazards — **"we become strategic"**. Design helps you overcome the wariness because you begin to realise the thought behind it. Crowded places become more interesting when you know more about design. He had explained the course to a couple of people as **"interacting with the environment"**.

He said he'd tell someone considering the course that it's really interesting and enjoyable and not a bit like school; that it works on lots of levels — making you inspect your surroundings, making you collaborate, changing the way you look at things.

**Tim**, 42, has a T12 complete injury from 2005. He is married with a 5-year old daughter and has no care assistance needs. Before his injury he was a garden/landscape designer and tree surgeon, and also an artist. Now he works as a journalist and writer. He enjoys a variety of outdoor pursuits, wheelchair tennis, cooking, reading, film, music and more. He has attended several Back Up sports courses and works as a wheelchair skills instructor.

Tim identified himself as very creative: since his injury he continues to paint, has written a book, plays the piano and guitar and is the chief cook in the house. He cited two major influences

on his creative development: a painter who taught him a traditional approach to laying out a palette, mixing colours, sizing and stretching canvases, etc., and his father-in-law, a furniture maker with a meticulous sense of detail and material. He defined design as the consideration of form, function and aesthetic, and was drawn to the course because he thought design methodology might help his creative and planning processes. At the time he discovered the course, he had been considering putting his situation forward to some Royal College of Art students as a design problem; but this course caught his attention because it **"flipped the problem the other way round"**, asking him to do the design.

Tim said pain, loss of spontaneity and the imposition of life's insurmountable barriers were his greatest challenges, but was optimistic about his ability to overcome these. Although earlier in his life much of his confidence was embodied in his physical self, he now cites knowledge — learned and practical skills — and equipment as the things that give him independence.

After the workshop Tim said he planned to be more conscientious about writing things down; it had reminded him of how ideas **"go into the ether"** if you don't record them. He also conceded that his sense of insurmountable barriers had been eased by listening to the guest speakers, especially Danny Brown, who got right back to what he'd always done and didn't let his disabilities become an issue.

Tim observed that being able to **"do"** design certainly has an effect on confidence, through understanding that your choices are prompted by other people's decisions. Disabled people in particular don't always fit the model that other people's decisions have created. You need confidence to break down or resist the social pressure to aspire to what's offered. Tim also thought the course could make a more explicit link between design and independence, by applying design-thinking to mundane things in the participants' lives, the day-to-day problems to which the observation–analysis–opportunity framework could be applied.

Tim said that the course did fulfil his wish for a design methodology. **"I'm conscious that it wasn't so much about execution as about being able to problem-solve: it was a very plausible 'teach a man to fish' model; about applying design principles to not one but any task."**

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## THE WORKSHOP IN DETAIL

### Day 1: Observation

Emily Campbell welcomed everyone and introduced the RSA and its long history of involvement with design. She explained the RSA's current design and resourcefulness argument and how the Design & Rehabilitation project had come about, "the idea being that along with all the other things you learn in rehab, it would be good to learn some structured approaches to problem-solving and having creative ideas, like designers use". She admitted that, although there had been an excellent response to the project from professionals in rehabilitation, she had not underestimated the challenge of recruiting spinal cord-injured people for a new course and a new idea like this. She was delighted to welcome a group of people who were "up for it" and untroubled by the ambiguity of design. Finally she showed the RSA's "YOU KNOW MORE THAN YOU THINK YOU DO" poster as an inspiration to the group.



#### Observation exercise 1: I've noticed that...

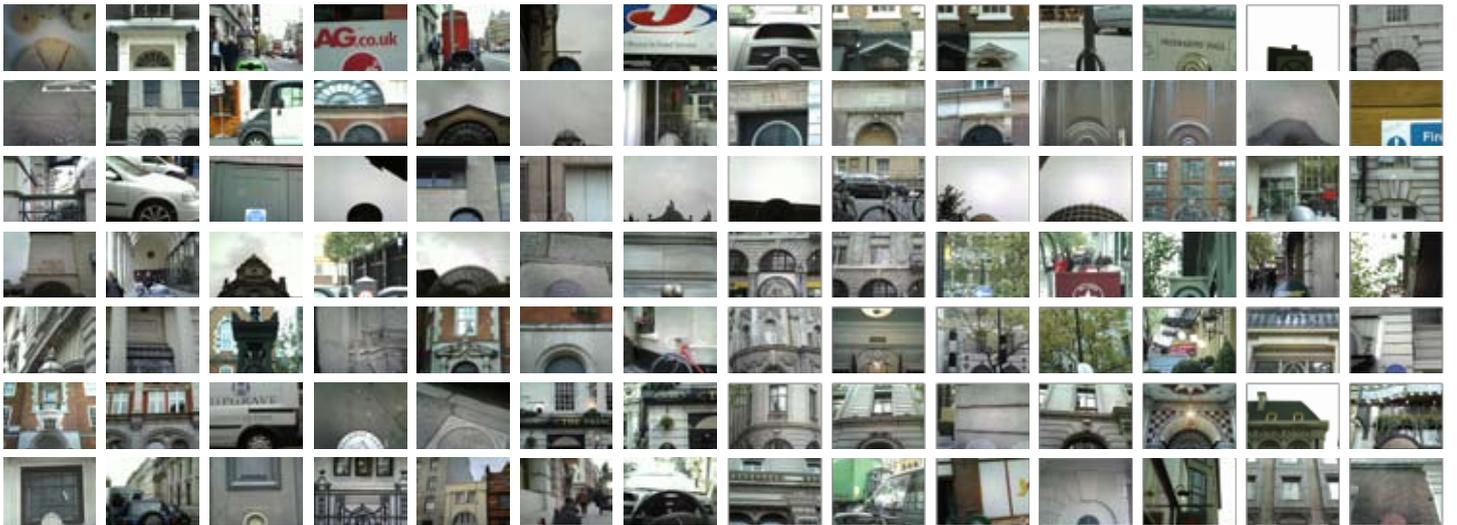
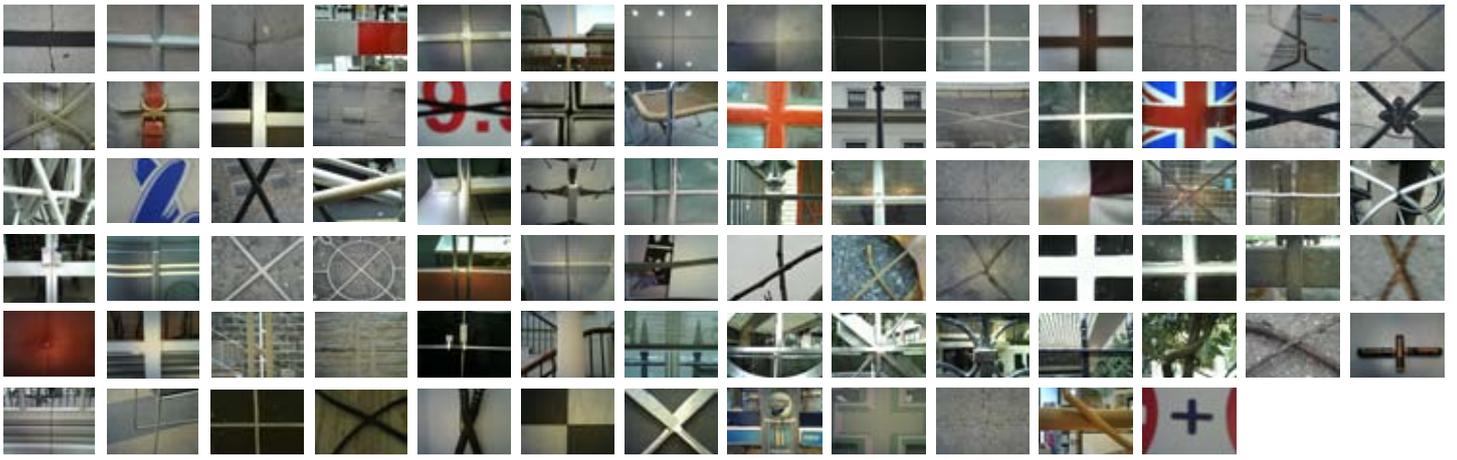
Participants were asked in advance to prepare to introduce themselves by telling the group about four things they'd noticed in the last twenty-four hours. They were given the option of using the following categories: because it is incongruous or out of place, because it is attractive, because it presents risk or exposes need, or because it looks like something else or appears to form a pattern. This exercise was conceived deliberately to ease the participants into thinking about observation; it was felt that a more conventional and personal round of introductions might lead to an emphasis on disability.

Everyone introduced themselves this way: the participants, the tutors, Sevra Davis and Marney Walker. Participants inevitably noticed a wide range of things, including a "lovely Lamborghini", "llamas in the fields of Lincolnshire" and "the risk of rain", but also many similar things: road safety and risky driving commonly exposed need or presented risk; the autumn light and colours were attractive to lots of people. They also, perhaps in anticipation of a design workshop, noticed a few things best described as visual phenomena, like condensation forming waves as it's blown by the wind across a window. One participant's list was markedly personal and social: the attractive thing he noticed was the sense of shared interest with other participants; the out-of-place thing was himself in a design workshop at the RSA. Pascal Anson's observation was assertive: there are too many silver cars. Yan-ki Lee's observations were all neatly associated with the new London Transport bike hire scheme.

#### Observation exercise 2: Ways of seeing

Pascal Anson explained that looking and noticing are crucial first stages of design. In this exercise participants were encouraged to put aside their acute, subjective user view and to observe the world differently by looking for specific things.

The assignment was to go out into the neighbourhood with a digital camera and photograph 100 examples of the same thing. He mentioned subjects like concrete, corners, light bulbs and the colour yellow — "the more boring the better".



**Opposite**  
 Poster by Anthony Burrill produced for the launch of the RSA's design and resourcefulness programme in 2009.

**Above**  
 82 crosses observed by Matt; 98 domes and semi-circles observed by Simon; 98 pairs of knees observed by Dean

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He explained the reason for this exercise. Deliberate observation, he said — seeing the world with the intention of becoming expert in something in order to use or change it — was the first way to bring about a change of thinking.

Participants chose their own subjects with the guidance of the tutors. They chose knees, crossing lines, domes and half circles, street corners, door handles, stripes, thresholds and reflections in the upper right corner of transparent material. In practice, ‘street corners’ was modified to car headlamps, and ‘door handles’ to car-door handles. The tutors also gave guidance on how to frame the subject for the best effect, and to make the ‘rule’ (ie what is being photographed) explicit.

Participants were asked to return within an hour and a half. Only one person took fewer than 100 pictures — most had a few extras. The photographs were uploaded into Photoshop, edited and laid out as two A3 contact sheets. These were digitally printed and mounted on A2 board to form an exhibition of the group’s Observation work.

The group discussion led by Pascal Anson focused on which rules were the most and least obvious and visible; the volume of information needed to disclose the rule; the use of the camera to create as well as respond to the rule; how you begin to be selective about examples; and how some of the collections of photographs could lead to a design idea (eg wrinkly knees might provoke a different trouser design). The workshop returned a few times to the concept of rules. Although rules might superficially be thought to inhibit freedom and therefore creativity, in fact in design it is often the constraints or parameters of a brief that allow details to be conceived or resolved in an original or definitive manner.

### Participants’ feedback on Day 1: Observation

Luke found the 100 photographs exercise especially enjoyable because it’s rare to have a reason to focus on one thing. “I definitely learned something about the effect of multiples, and there are so many differences in something that appears common. You get more choosy as you collect them.” He also reflected that it’s the exercise he’d talked about most afterwards. Jason said photographing car-door handles turned out to be the hardest thing on the course although it seemed so simple at first. To photograph 100 examples was physically demanding, but it was really impressive to see everyone’s collection together printed out. Matt also said he was puzzled at first, but that photographing 100 crosses made him see things differently. Simon appreciated having to go outside and look at what he would normally ignore. The whole course, but particularly this exercise, made him connect with the environment he always slightly fears. He also said it was rewarding in retrospect: “other things on the course led on from it; but it had an impact from being the first thing we did”.

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### Guest speaker: Danny Brown

At this point Danny Brown joined the group as a guest speaker. Danny Brown is an internationally celebrated web designer and digital artist, injured in 2003 at level C4/5/6. He talked about rehabilitation from a designer’s perspective and in detail about a number of devices that he had developed to help him draw, use a keypad and transfer knowledge between a steadily changing series of personal assistants. He then showed examples of his complex and alluring animations, randomly generated on the screen from mathematical formulae.

As a disabled person, Danny Brown very much advocated customisation and he stressed how important design is in helping him to avoid the standard-issue ‘beige and black’ landscape of disability products. He also described how design helps him to ‘think in the future’ and break things down into parts.

Danny Brown viewed the exhibition of photographs taken by the workshop participants and, as a digital image-maker, was an especially appropriate critic. He particularly noted how it takes a lot of guts to ask a stranger for permission to photograph their knees, and he remarked on the unintended political content of the photographs of thresholds and knees for wheelchair-users. Unwittingly underscoring the utility of the ‘100 photographs’ exercise, he told the group that he regularly uses Flickr to collect many examples of the same thing or of a visual phenomenon in order to help him create something new on the computer.





## Day 2: Analysis

Emily Campbell introduced the day by quoting the previous day's guest speaker, Danny Brown. A product, he had reasoned, has to fulfil a basic function: you have to be able to sit on a chair; a cup has to hold liquid; a coat should keep you warm; a timetable should be legible. All of these things might need to be made to a certain budget and/or from a certain set of available materials. But within those constraints of function, cost, material, legibility, etc. there's room for negotiation, and this is the space for design.

She went on to say that man-made things — designed things — are compounds of elements and layers that the designer has deliberately chosen or specified (in the space for negotiation identified by Danny Brown). She pointed out that there is a mistaken stereotype of designers as exotic, temperamental and style-obsessed, when in fact the real designers are logical people, with reasons for what they do. While acknowledging the subjective or emotional elements in design, and that some designers have distinctive taste and exceptional talent for visualisation, she stressed that designers are above all motivated to pursue objects or images or buildings as whole, complete, correct ideas. Logic and the economy are paramount: the reasons why something is the way it is.

### Analysis exercise 1: A big dismantling

The three tutors showed a series of images and objects, breaking them down into the layers and elements, or design decisions, of which they were constituted. These included a bouquet of flowers, a logotype, a piece of jewellery, a restaurant interior, a person in a Burberry hat and hoodie, and some food packaging. Some of the layers are functional or material (what something's for, what it's made of, how it's made, and why); some layers are to do with meaning or association (what something suggests or reminds you of). In design, every layer has a reason and represents a decision. For a product to 'read' or function, or be comprehensible to someone else, these elements and layers need to be based on common experiences or senses.

#### Opposite

Danny Brown, photo by Leon Chew for the British Council

*Secret Garden* by Danny Brown for Gallery Libby Sellers 2007; monitor with embedded camera capturing and displaying the viewer among animated flowers

#### Above: Sample analyses of design elements and layers

Bouquet by anonymous florist: two kinds of foliage in contrasting colours; inner flowers arranged to form regular triangles within evenly spaced green leaves; stalks tied to form a bunch; wrapped in cellophane

Logo for Westminster Opera by Ned Campbell: reads as a word, 'woco'; also as abbreviation of Westminster Opera Company; modern and geometric (o is a perfect circle) but also baroque (letters different sizes and shifting baseline); looks like clouds in sky; suggests open mouth and emerging sound or bubbles

*Chav* – 30188 photograph downloaded from Internet:

American baseball hat shape in classic English Burberry check originally used as raincoat lining; fake-fur edged parka on top of hat as deliberate decision although functionally superfluous; offensive gesture and gypsy earrings contrasting with refinement signified by Burberry check; scowl underscores offensive gesture while evoking disdainful expression of fashion models

All Saints store interior, London: clothes shop selling new clothes in old styles; distressed surfaces; bricolage; vernacular heritage fabric; re-used or reproduced old shop fittings; part-factory, part-farm, part-church; industrial and metallic colours; machine parts; collection of ram skulls adds allegory and evokes retail company logo

With this introduction, participants were asked to go out into the surrounding streets and find, photograph or buy something that they could dismantle into its man-made layers and elements, as the tutors had done. They brought back two logotypes, a photograph of a motorcycle, a take-away food container, a five-pound note, a folding waterproof London Transport map, a case for earphones and a pair of socks emblazoned with a union jack, the participant's name and the legend 'Graceful Cheerful Groovy' knitted into the sole.

The take-away chicken box was relatively straightforward. The tutors asked of it, *What is it? What's it made of? Why? How is it made? Why is it made like that? Why the yellow and red? Why are the figures dancing and jumping? Why the border of blue and white stars? How many type styles are there? Why?*

The bike was more complex. Four of the participants were motorcycle enthusiasts, as are many people with spinal cord injuries. Its presenter may have felt comfortable showing a familiar object, or that this iconic Harley-Davidson would be so well-known and understood that it required little analysis, but the interrogation was severe. The group swiftly dispatched the functional and material layers of the bike in favour of the rich layers of meaning its designers had contrived, and the bike itself had acquired by use over the years.

*It's cool, the participant said. Why? the tutors replied. It has a great engine. Really, is that why it's cool? If it's got such a great engine, why do the handlebars look like they belong to a Chopper? Middle-aged men like this motorcycle. But you said it was cool. Are middle-aged men cool? Why is this their bike? Let's look at it carefully. Why the rounded forms and swooping seat? Because you sit back to ride it. Why do you do that? Easy Rider. What's Easy Rider? Why does the mudguard have those red and white stripes? Because it was in TGI Friday's window. So what's TGI Friday's got to do with Easy Rider? And so on.*

## Participants' feedback on Analysis exercise 1

The dismantling assignment generated the most feedback of all the exercises in the workshop.

For Dean it was the moment in the course when he felt he really 'got' design. He and Carlie came back from the assignment quickly with the take-away chicken package, but were very frank about how barely they understood what they were supposed to do with it. A short coaching session with Pascal Anson, who helped them come up with a list of questions to ask of their object, made him understand. He has recommended rephrasing the exercise as "Tell us everything about the object, everything you know", and enjoyed performing an analysis of a coffee jar on the kitchen table for relatives in the days following the workshop.

Jason said the most rewarding part of the course was being forced to answer all the tutors' questions, and being able to do it. He was particularly struck by seeing the layers in the opera logo 'unpeeled' in Emily's analysis. Liz also enjoyed the tutors' introduction. Although she expected the dismantling to be hard, the challenge turned out to be choosing an object. In the end she chose something that "broke down really well" — the waterproof London Transport map. Luke said it was the hardest exercise, but that it was surprising, revealing, and empowering. "Analysing and breaking down something into layers helps you think 'What can I control here?'"

*Under the pressure of time, no sink and melting ice, they needed not only to consider flavours, colour, temperature, choice of glass, etc., but also to plan production and assembly for optimal effect at the time of presentation.*



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## Guest speaker: Adam Thomas

Adam Thomas has twenty years of experience as a designer of accessible kitchens. He showed a range of inspiring and ingenious kitchens and kitchen adaptations. But his presentation also emphasised the reluctance of manufacturers to supply for the disabled market. With 10 million disabled people in the UK, he pointed out the opportunity manufacturers are squandering, while also describing examples of products serendipitously optimised for disabled people or wheelchair-users that one by one seemed to go out of production as soon as they came on the market.

Adam Thomas works at the high-end of the kitchen market, with access to manufacturing and construction expertise. Emily Campbell asked him to 'close the gap' between his specialised work as a designer and the workshop participants by talking about his early experience and education in design. In response, he stressed the great value of wood and metalwork at school, and of being encouraged to make things.



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**Opposite**  
The chicken package under analysis by Dean

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**Above**  
Wheelchair-accessible kitchen by Design Matters

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Guest speaker Adam Thomas

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**Right**  
Final cocktails by Dean, Liz and Tim

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Simon said it encouraged them to look beyond the surface, and that he would never have looked at something in that kind of detail. "It makes you think more."

Matt said "How to take a logo apart. Before I just thought things were cool or not — now I can say why". Tim thought breaking things down into layers was useful "because I enjoyed the rigorous push-push-push from the tutors and I don't do that enough. It's important in the wider business context — people will always find the weak point in your proposition."

## Analysis exercise 2: Constructing layers

Each participant was given the name of another, and asked to interview them and design a cocktail — a layered drink — based on what they had learned about that person. The tutors' intention was to propose a fun exercise in a deadpan way. They stressed that the exercise was not to make a cocktail that the other person *liked*, but a cocktail that they *were like*.

With materials obtained from the RSA bar and the local supermarket, and using bar equipment as primitive studio facilities, participants created eight cocktails. Under the pressure of time, no sink and melting ice, they needed not only to consider flavours, colour, temperature, choice of glass, etc., but also to plan production and assembly for optimal effect at the time of presentation. In a cocktail critique, each participant presented their concept and rationale, and the person it represented was asked to taste it and comment. The 'Green Goddess', containing chilli, coriander, lime and vodka received a round of applause; others were less appetising to taste and behold.

## Participants' feedback on Analysis exercise 2

The cocktail exercise was universally cited as the most surprising. In Tim's words, "it was a nice, sudden, unorthodox approach; surprising but it made sense with everything else. Surprising that design principles could be applied to something like that; but it had a real physical outcome; something you had to construct." Liz said it was completely the opposite of what she would have expected, even remembering the quick-turnaround exercises of her own graphic design training: "Flavours etc. as an analogy for personality — it was great". Jason said it was daunting beforehand, but "really good in the end" and that he could see how it related to design. Luke said "putting the layers in the drink showed a different way of thinking — how someone could be like something". Matt also puzzled over this. "The cocktail, well, that was difficult. Not that someone likes but that they're like. I had to capture Dean rather than make him something he'd want to drink." Simon was taken aback by the exercise but "then it added up while I was doing it. I really had no idea but the process we were shown made it work out in the end."



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## Day 3: Opportunity

The objective of Day 3 was to help participants think freely about things that might be designed or redesigned, using observation and analysis techniques practised earlier in the course.

Dr Yan-ki Lee introduced the day with her presentation ‘From social inclusion to equality through design’. She described her research into the design implications of social inclusion, and more importantly, into addressing equality through design practice. Her main research question, *What is Design?*, concerns the very definition of design. Invoking the simple dictionary definitions of design as a noun, adjective and verb, she pointed out that design as a noun is the common interpretation by the public and in higher education, which defines it as a subject sub-divided into disciplines. Design as an adjective reflects recent debates and a transformation in practice from designing products to designing for a wider purpose (as in ‘design-thinking’). However, Yan-ki Lee stressed that she is practising design as a verb, which aligns her with the belief of the famous design duo, Ray and Charles Eames, that “Design is a course of action”.

Inclusive design has become one of the official terminologies for this form of practice. It emerged out of the 1994 paper by the RCA’s Professor Roger Coleman<sup>9</sup> urging designers to design for social inclusion, and with empathy rather than sympathy. Yan-ki Lee has expanded this idea into a new design methodology in which designers treat people as their ‘creative partners’. Working closely with disabled people, for example, and identifying what they can do, enables designers to be inspired to create a better designed world for our future selves. This is what Yan-ki Lee calls the new model of disability: a model that is not medical, but cultural; a model that respects the lifestyles of disabled people as unique and inspirational.

### Opportunity exercise 1: Translation

Participants were asked to choose a well-known work of fiction (either a book or a film), and propose a restaurant based on that work, naming eight of its design features. The exercise was to be completed in words, without drawing.

Emily Campbell made a short presentation warning the participants of the dangers of too literal or superficial a translation. The goal was to create a series of rich, intriguing and suggestive restaurant concepts, rather than environments that are simply gimmicky or superficially themed. She showed three pairs of examples of places or periods translated into objects or spaces: a pair of souvenirs, a pair of bar/café interiors, and a pair of retro products — a countertop espresso-maker and a car.

The participants chose *Titanic* (x2), *The Full Monty*, *Withnail and I*, *The Italian Job*, *Jaws*, *Alice in Wonderland* (the Tim Burton film, not the Carroll/Tenniel book) and *2001, A Space Odyssey*.

While the *Titanic* restaurants made good attempts to convey grandeur and romance, the tutors stressed the vital importance of invoking the tragic aspects of the story as well. The *Jaws* design raised similar issues; how to make a summery, boardwalk, maritime-themed restaurant also invoke fear and suspense. Both attempts were excellent illustrations of Danny Brown’s point about the negotiable and non-negotiable aspects of design.<sup>10</sup>



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#### Above

Stills from *The Race* by Alice Finbow, 2006; project led by Yan-ki Lee rethinking user participation through creative engagement

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#### Opposite: Design as translation — of places into things and places into other places

Two souvenirs: Faberge-style enamelled egg with composite image of London applied; a bag of Slovenian sea salt marketed by the Slovenian tourist board. The first is a confection of unrelated elements, the second a package of deliberate simplicity for an elemental product of the place.

Two bar interiors: Rainforest Café, occupying part of a 19th century commercial building in central London, disguised literally as a rainforest with tropical fish tanks, exotic animal prints, and lush vegetation; the Hacienda nightclub in Manchester designed by Ben Kelly ambiguously suggesting a garage or factory as a place to drink and dance, or an industrial interpretation of a Spanish ranch house.

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<sup>9</sup> *The Case for Inclusive Design*, Roger Coleman, 1994

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<sup>10</sup> See Emily Campbell’s Introduction to Analysis, page 13

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The non-negotiable aspect of a restaurant is that people have to want to eat there. The challenge is to convey tension and tragedy without putting people off their food or giving them a bad time. The group concluded for similar reasons that the *Withnail and I* restaurant was more likely to succeed as a museum or visitor experience than as a place to eat.

The *Alice in Wonderland* restaurant prompted an observation that with the Carroll/Tenniel and Burton works so highly stylised anyway, it was difficult to be original; perhaps the concept should be modified to a Surrealist restaurant. The *Full Monty* restaurant designer was encouraged to edit her concept to make it less literal. Conceding that with spotlights shining on them the round, red tables would be quite stage-y anyway, she agreed that the performance stage could go.

The discussion reached quite an advanced conceptual level with *The Italian Job* and *2001*. The designer of *The Italian Job* restaurant wanted to incorporate gold ingots somewhere. It was suggested that instead he consider deliberately designing merchandise that customers would want to steal: aiming for sense of mild criminal mischief rather than tacky signifiers of bank theft. The *2001* restaurant exploited contrasts between traditional French cuisine and a futuristic environment; the dining room arranged around a sealed glass kitchen chamber in which chefs could be seen but not heard.



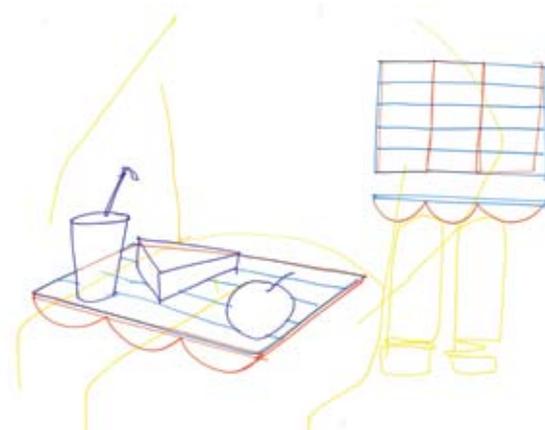
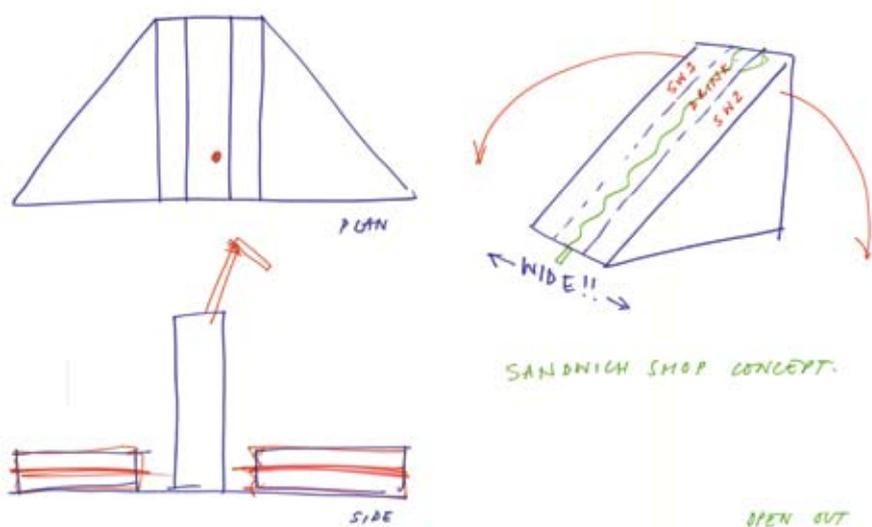
## Opportunity exercise 2: Make it more pleasurable to eat and drink

The tutors introduced a single, universal design challenge for the final session: 'Make it more pleasurable to eat and drink'. Participants were encouraged to go out into the neighbourhood over lunchtime and observe people eating and drinking — in the park, in restaurants and cafes, walking along the street — but they were also reminded that eating and drinking at home was a fine context in which to consider the brief.

After the period of observation and thinking, the participants divided into two groups depending on whether their concept more closely resembled a 'place' or a 'thing'. The 'place' table was led by Yan-ki Lee (an architect) and the 'thing' table by Pascal Anson (a product/furniture designer), while Emily Campbell moved between the two tables helping to facilitate discussion and design development. Each participant had fifteen minutes to present and get feedback from the table on their idea, with Pascal Anson and Yan-ki Lee drawing up the concepts on large-format paper.

The proposals were: two open-air 'gazebos' for eating or picnicking, two folding lap-top tables, a bench with extended arm surfaces, wearable food-jewellery, a folding package for a sandwich and drink combination, and a bar/café called Feed-date and based on the concept of speed dating.

In the final session of the workshop, each participant presented his or her design to the group, using the drawings to explain the concept. This corresponds exactly to the convention of the 'critique' in art and design school; an opportunity to propose an idea 'in progress', and to develop it with the aid of comments and reflections from experts and peers. In fact the third guest speaker, David Constantine, arrived during the final session and said he was immediately reminded of 'crits' at the Royal College of Art.



### Clockwise from Left

Simon's folding package for a sandwich and drink combination

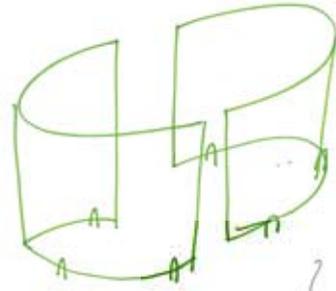
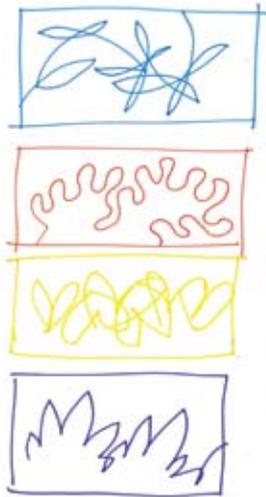
Liz's wearable food-jewellery

Tim and Dean's open-air gazebos for shared eating and picnicking

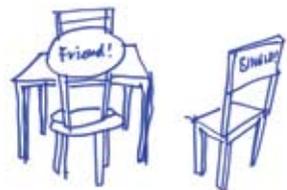
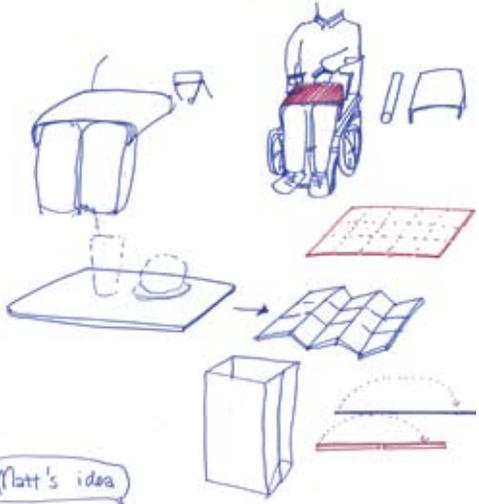
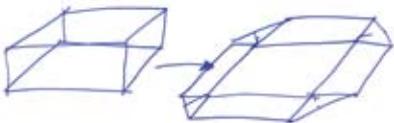
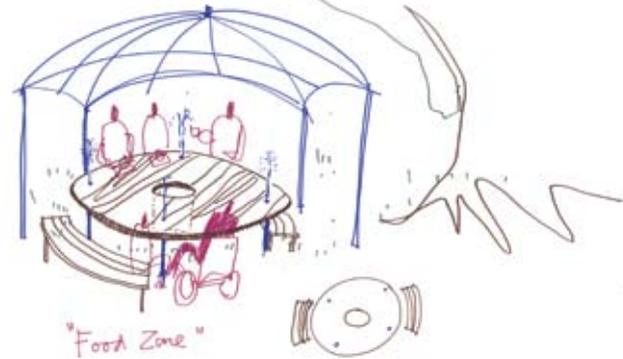
Jason's Feed-date restaurant based on the concept of speed-dating

Morag's modified park bench arms

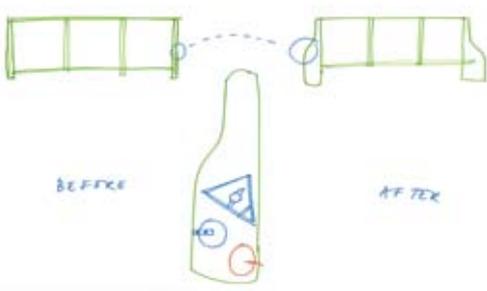
Folding portable lap-trays by Luke and Matt



Deen's Big Idea



CHOOSE YOUR CHAIR!



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## Participants' feedback on Day 3: Opportunity

The translation and the eating and drinking exercise evidently stretched the participants but were cited several times as “rewarding” markers of progress. Jason felt that by the time of the restaurant exercise “it seemed to go a bit better with dealing with Emily’s and Pascal’s awkward questions”. Liz said her *Alice in Wonderland* restaurant was rewarding because she really learned something: “I realised I forgot to look at the big picture”. For Matt, translating *The Italian Job* into a restaurant concept was a turning point in the workshop; “It really started to flow. When Pascal mentioned the idea of provoking theft; that was a Eureka moment. Daring the client to take something; that was a real design idea.” For him, observing people eating and drinking and having to present his ideas to the group brought completion to the earlier workshop exercises. Tim also found resolution in the final exercise. “It felt like a light bulb going on — the idea came fully formed.” Later he described how he was passing on the translation exercise (with some observation and analysis as well) to his daughter, asking her what kind of house her toy monkey would live in and encouraging her to see it from his perspective. Morag committed more fully to the final exercises than to the earlier ones — “for me, they were more about putting something into practice”.

The workshop concluded with a short discussion of the participants’ experiences during the workshop, attended by Back Up’s Outreach and Support Officer, Sean McCallion. David Constantine then appeared as the guest speaker for Day 3. He was due to receive the RSA 2010 Bicentenary Medal in a public event that evening, at which he gave an inspiring address which he called ‘Freedom by Design’. All the participants were invited to attend this event and the informal supper afterwards.

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## Guest speaker: David Constantine

David Constantine MBE is co-founder of the charity Motivation, which designs and specifies low-cost mobility solutions for developing countries. They also set up manufacturing workshops and run peer-training and capacity-building programmes for disability charities all over the world. David Constantine spoke movingly of the circumstances that led him to study industrial design at the Royal College of Art after injuring his spinal cord in a diving accident in his 20s. He told hair-raising stories of his first trip to Bangladesh and his most recent trip to Afghanistan. Receiving the RSA Bicentenary Medal later that evening, in a ceremony which most of the participants attended, he reprised his thoughts under the title ‘Freedom through design’. Design gave him an alternative to the standard-issue NHS wheelchair (then unchanged since the 1930s), design allowed him to use a camera again, and design led to Motivation. The evolving concept of Motivation as a charity has increased not only the mobility of disabled people but their social and economic rehabilitation: David Constantine showed how design can reveal and answer deeper social needs than wheelchair use alone.



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**Above**  
Guest speaker David Constantine, co-founder of Motivation

Motivation wheelchair workshop in Indonesia

Four-wheeler chair by Motivation, 2010

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## PARTICIPANTS' FEEDBACK

### Things or thinking?

With one exception, participants appeared to accept that they wouldn't be designing things for three days, but learning principles; adopting an attitude and practising some habits. Morag, the exception here, was sceptical that **"learning design"** was the correct proposition. She also recommended scrapping the observation and analysis and going straight to the Day 3 design exercises. Three others, however, described the moment they 'got' design as being in the first two days, and all the other participants fed back more thoughts about the observation and analysis sessions than the later exercises which more closely corresponded to design as execution. Dean was unreserved in his endorsement of the principles behind the course: **"I think it's absolutely brilliant. Disabled people have a unique perspective and design will help them solve their own difficulties even if that's not the direct intention of the course."** Simon said the course had everything necessary and a natural progression.

### Layers and cocktails, anyone?

The dismantling-into-layers exercise on Day 2 prompted the most reflection and seemed to be the most didactically effective exercise in giving people a way to understand design. The cocktail session was universally considered surprising, but also cited repeatedly as a genuinely enlightening design exercise. The rational and deliberate translation of a person's qualities into flavour etc. was broadly accepted as a challenging, plausible and do-able act of design by these amateurs in the discipline. As a fully executed design exercise, it also enforced a consideration of material production. It is important to consider that with other groups, the cocktail exercise might be inappropriate and have to be replaced with another layer-creating exercise.

### Brace yourself!

Most people accepted the value of the relatively forthright style of teaching and critiquing the exercises, even if they weren't used to a challenging atmosphere of this kind. Jason observed, **"You need to be put on the spot in order to learn"**, and said that being forced to answer all the questions, and being able to do it, was the most rewarding aspect of the course. Simon said his memorable image will be **"the tutors interrogating us, in a good way; trying to get beyond the surface perceptions"**. Tim enjoyed the **"rigorous push–push–push from the tutors"** and pointed out its utility: **"In the wider business context, people will always find the weak point in your proposition"**. Dean described the course as an experience in which **"you have to come up with the answers yourself"**, and assessed its bracing quality as benign: **"You weren't trying to catch us out, but just to guide or nudge us"**.

Luke was more cautious, suspecting that some may not be comfortable with such a rigorous level of analytical questioning, while struggling to understand the goal of the exercise. Tim expanded on this: **"It's easy to forget that a lot of people aren't used to vigorous debate and don't want to look silly. They don't necessarily understand that a forthright approach isn't personal. They're afraid that there's a right and wrong and they might be wrong."** He wondered if the introductory session, (*I've noticed that...*), for example, could ease participants in more gently by asking for a personal and general introduction, rather than requiring participants to report immediately on their homework. Morag declared the teaching style aggressive and contributed relatively little to group conversations.

### Resourcefulness? What resourcefulness?

Marney Walker was surprised that the workshop did not address the RSA's central theme of design and resourcefulness more directly. Although the tutors deliberately concentrated on developing participants' ability to think like a designer, it is feasible that exercises could be incorporated that ask participants to show practical resourcefulness, perhaps in combination with observation and analysis. Tim also reflected that there could be **"a more explicit link"** to needs, and that it was a small move to make this link. **"The design-thinking, applied to mundane things, could produce a stepchange in the way people think about their lives. You could elicit a 'for instance' day-to-day problem and talk about routines from a design point of view, using that rigorous observation and analysis."** While Morag said the course wasn't useful until the last day, all the others accepted the earlier exercises as plausible foundations for design.

### What next?

Most participants had some sense of what they would do next with the knowledge they had gained in the workshop and could say how it had benefited them. These ranged from simply becoming more aware of the designed environment and less fearful of it (Simon), to becoming an expert in socially inclusive design (Liz), to getting a wheelchair camera stand designed or a mobility device prototyped (Dean, Matt, Jason and Morag).

Tim had defended the course when a friend suggested that it was a one-off gig that he wouldn't be able to take forward. He pointed out that no-one would say such a thing of water-skiing, so why should a design course be any different? This raises the question of whether such a design course should aim to be specific or even vocational — in the sense of being directed to employment opportunities — in its benefit, or general. The tutors had feared that recruiting for the workshop would be difficult because people associate design so firmly with professional activity — they imagined a response like **"Why would I want to do a design course? I have no plans to be a designer"**. Confirming this, Liz said that her aunt only conceded the course might be a good idea when Liz mentioned how it might help her get back to work. Tim was open-minded about the benefits. Spinal cord-injured people, he said, should do the course, firstly because design is both practical and empowering; it can suggest a career and it can lead you to solutions in your own life. **"Secondly"**, he said **"because it's just a really stimulating three days."**

### Pass it on

Seven participants said unhesitatingly that they would recommend the course to someone who was considering it, with some caveats about being open-minded, going with the flow, asking if you don't understand, etc.; the eighth declined to answer. Most found it relatively easy and enjoyable to explain to others afterwards what they had done on the course, with examples and pictures to show, and exercises to demonstrate. Morag **"found some aspects of what took place extremely difficult to explain"** afterwards.



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## The longest day

Taking advice from Back Up, it was determined that the workshop would start at 9.30am and occupy full working days. While no-one suggested the days could be shortened, three commented that they were very tired each day and by the end. The first day had an unfortunate lull while the team organised the production of the photographic exhibition: another small exercise could be inserted into this time. Matt said he was **“knackered”** by the end but appreciated the **“full-on”** quality; that the tutors **“crammed a lot in”**.

The logistics: Two people commented that the workshop was well put together and run; **“very well planned”**. Three mentioned the benefit of getting out and about, and Liz suggested that the course could even include a visit — the Design Museum, for instance. Tim connected the ‘out and about’ exercises, applying the knowledge, explicitly with the condition of a wheelchair user: **“We’re conspicuous anyway and became more so on account of what we were doing”**. Morag regretted having accommodation at a distance from the venue. **“I got very tired in the afternoons and it would have been helpful to have had somewhere closer to be able to rest, change clothes, etc.”** The RSA had considered holding the workshop in a hotel at Stoke Mandeville (Aylesbury) but had been persuaded that the rich urban context around the RSA yielded better material and stimulus for the design exercises.

## Advance notice

Ahead of the workshop, none of the participants knew in detail what would actually happen, but they were all curious and happy to commit nonetheless. After the workshop, Morag said the information she received in advance gave **“an overly optimistic view of how much attending the workshop would contribute to us being able to change our lives and ability to deal with difficult situations”**. Matt reflected that he had expected **“a bit of computer work, and help designing products we might have had in mind”**, but that **“in retrospect, the workshop did correspond with what we’d been told”**. Tim said he read the advance information again on the bus home after the last day and **“nothing was missing”**. Dean said that the informal email communication style certainly diminished the sense of personal risk.

## Design = confidence and independence?

All the participants could construe a connection between design and confidence, and between design and independence. Matt simply said **“there’s definitely a connection between independence and being able to use design to make your life easier”**. For Morag the issue is both more semantically complicated, and more circumspect: **“I personally believe that design and personal awareness of one’s own abilities can influence a person’s confidence in being able to function in a more enhanced way in the world. Whether that individual has the control over their own environment, however, to achieve this is another matter.”** Simon was able to connect his sense of independence to exercises in the workshop: **“Learning to deconstruct something gives you the confidence to construct something. You get power from knowing why something is the way it is.”** Luke made a similar observation: **“Analysing and breaking down something into layers helps you think ‘What can I control here?’ It’s a powerful concept.”**

## In it together

Several participants made distinct reference to the collaborative, deliberative style of the workshop as a benefit, perhaps because they didn’t expect it. Whether or not design intrinsically prompts collaborative thinking, group presentations, critiques and discussions are conventional in design education and seem to have translated well into this context. Liz said she enjoyed **“the whole atmosphere: it was great to hear other people’s opinions and thoughts”**. Some connected this ‘shared’ aspect with the generally bracing character of the workshop. Luke, for example, said he was **“pleased that I did OK”** presenting to the group. Jason attributed his general sense of increased confidence to the group dynamics, and explicitly connected this to the world of work: **“I feel a bit more confident in all areas, and a bit better about getting back to work. Everyone seemed to have ideas and we were all bouncing off each other. At times it was almost like a work environment.”** Simon was thoughtful: **“I have more of a confidence from working together than an individual confidence. Sharing like this, you have to be open. It’s a good way of developing things.”** Only Morag seemed to suffer. In spite of being accustomed to praise for her effectiveness as a communicator, she had **“never experienced such communication difficulties and felt so misunderstood as on this occasion”**.

## Funny language

The tutors were aware of the necessity of speaking in plain language, rather than in design jargon. At the same time, they recognised that part of learning design is learning its terms of reference. Marney Walker suggested that a glossary of terms should be supplied to participants, and Morag proposed something similar, a set of **“lay explanations”** as a foundation to build on. Dean suggested that instead of using the term ‘analysis’ and the metaphor of ‘layers’, we simply say **“tell me everything about this object”**. Luke recommended improving the **“delivery”** of the analysis exercise so that people understand it better, and using the chicken box as an example. But he cautioned against **“oversimplifying the exercise”** by issuing ten questions to be asked of every object.

## Our distinguished guests

The three guest speakers were almost universally acknowledged as rewarding, memorable and inspiring.

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## CONCLUSION

The workshop had three objectives, stated at the outset of this report: firstly, to inspire spinal cord-injured people to think creatively like a designer; secondly, to give spinal cord-injured people confidence and independence by teaching them creative design tools and techniques; and thirdly, to establish an effective workshop format replicable by Back Up as part of their range of courses for spinal cord-injured people, or by the RSA with other groups.

A small number of people read this report in draft as peer reviewers. **Steve Broome** and **Julian Thompson** are RSA colleagues who are expert in research. **Stef Cormack** is Head of Services at Back Up. From the world of design, **Michael Bierut** is a partner in the design consultancy Pentagram and co-founder of the website Design Observer, which critiques design in a wide context of culture and social change. **Mat Hunter** is an industrial designer and Chief Design Officer at the Design Council, prominently involved in the Design Council's capacity-building initiatives. **Richard Hollis** is an influential writer, teacher and graphic designer; also a member of the RSA's Faculty of Royal Designers. One of these peer reviewers, Julian Thompson, and a colleague of Stef Cormack from Back Up, **Sean McCallion**, witnessed part of the actual workshop, while all of them read the detailed report on the participants, workshop activities and feedback contained above.

The comments and observations of these peer reviewers have contributed to the following assessment of how well the workshop met its three stated objectives. This conclusion also reflects the views of the three workshop tutors, Pascal Anson, Yan-ki Lee and Emily Campbell.

### Thinking creatively

The least contested success of the workshop was in getting the participants to think creatively — to propose and develop original ideas of their own — within a structured process. The workshop showed them how to use rules and logical questioning to increase the meaning and functionality of things they designed in the workshop and might now design. Although creativity is almost by definition highly idiosyncratic, the workshop successfully trialled things everyone can do to make their ideas more distinctive, economical, logical, significant and communicable to others. The observation and analysis framework was the foundation of this success.

Each of the designers who reviewed the project said it was important, and broadly successful with respect to this first aim. Richard Hollis even suggested it would be beneficial as a mandatory course for pre-university design students. Michael Bierut said that from a US perspective, the concept of co-design is unfamiliar. This makes the 'design for-with-by' formulation, which is used to identify the special challenge of this workshop, seem "awfully evolved". In spite of this reservation, he found the workshop content easy to understand and readily translatable for other groups. Back Up called the initiative "ground breaking" because of its emphasis on creative thinking. Stef Cormack said "Participants reported changes in their thinking or ways of seeing the world. The difference this can make to people's lives is powerful."

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*"Analysing and breaking down something into layers helps you think 'What can I control here?' It's a powerful concept."*

— Luke

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*Is ‘a sense of agency’ a concrete enough ambition for a workshop that aims to increase the confidence and independence of people who face real obstacles on account of their disability? Should the workshop aim rather — or additionally — for ‘a problem solved’?*

The creative thinking skills taught in the workshop are reactive as well as proactive; they become a means of critiquing or assessing the effectiveness of design around you as well as a way of advancing your own ideas. Although it had not been stated as a primary objective of the exercise, being better able to judge the merits of other people’s design, as well as able to design simple things yourself, emerged as a clear benefit of the course.

Whether or not critical discernment leads to creativity, or the other way round, is a mildly contentious academic issue, which Mat Hunter identified as ‘think-then-build’ versus ‘thinking-through-building’. Although the RSA workshop could be said to have inclined towards ‘think-then-build’, it should not be overlooked that the participants ‘built’, or made, plenty of things: a photographic essay, an oral design analysis, a cocktail, a verbal (unvisualised) list of design features defining a restaurant concept, and a device to improve eating and drinking which was sketched but not prototyped in three dimensions. Nor was the ‘building’ entirely a set of mental exercises. Although only the cocktail was materially crafted, or constructed as a physical object, the tutors constantly prompted the participants to consider production: they interrogated, for example, the participants’ framing of photographic subjects, their designation of material, colour or position, and their analyses of construction and manufacture.

Enhanced creative and critical thinking, on their own, may be said by some critics to lack utility. This point leads naturally to a discussion of the second aim of the workshop.

### Confidence and independence

Michael Bierut admitted to having approached the report in a contrarian spirit; suspicious that merely being solicited and engaged by any subject would have a positive effect on the participants. He complimented the organisers, however, on making a strong case for “the relationship between design-thinking and having a sense of agency in one’s environment and one’s life”. This is of the utmost importance to the RSA’s claims about the general value and utility of design education; that is, value and utility beyond the scope of professional vocation.

The workshop deliberately aimed to engender a change in thinking, rather than to deliver tangible new solutions to the participants’ individual daily challenges. Having broadly achieved the former, it raises the question of whether ‘a sense of agency’ is a concrete enough ambition for a workshop that aims to increase the confidence and independence of people who face real obstacles on account of their disability. Should the workshop aim rather — or additionally — for ‘a problem solved’, and if so, how might this be achieved? Mat Hunter was particularly exercised by the limitations of a mere change in thinking. How would a change in thinking be embedded as a change in behaviour and a palpably increased capacity to change elements of one’s life?

Mat Hunter suggested a shorter workshop with follow-up sessions at home for the participants. An exercise that directly aims to provoke resourcefulness, using, for example, limited materials or time to solve a problem, was another suggestion. Since many spinal cord-injured people are resourceful by necessity, applying the principles of observation and analysis to the improvisations and adaptations of their daily lives would seem to be a feasible exercise. The inclusion of one exercise that asks participants to apply design-thinking to either a personal, day-to-day problem or a major lifelong goal was generally felt to be a small move which could make the outcomes of the workshop significantly more tangible.

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This point is controversial. It is hard to estimate whether a more personalised, practical goal for each participant would lead to greater or less confidence in design. The tutors rejected it in planning this workshop for the very reason that the results would be too easy to criticise — too incomplete, too subjective and perhaps too far below the professional standards we have grown to expect from design — and could therefore have a negative effect on confidence. Pascal Anson was particularly resolute about this.

In retrospect, Yan-ki Lee believes that in deliberately avoiding individualised and practical problem-solving, the workshop may have missed an opportunity. She thinks it would be possible to ‘unfold’ the participants’ existing desires and needs, to ‘build in time for self-exploration’, and to coach them in applying design to their own situation. Pascal Anson remains adamant that the tutors needed to “maintain a trajectory outside of what the participants are used to”, and discourage subjective reflection in favour of a rational and communicable understanding of design decision-making. He stresses that as with all art, design becomes incomprehensible and exclusive when it is based on values so subjective that only the originator can argue its case. “A good way to tell if someone has understood something is to get them to explain it to someone else”.

In whatever ways the workshop might be revised or modified, Mat Hunter stressed the importance of considering how the skills practised in this workshop can be topped up and embedded in daily life; how to make the participants’ new, vivid grasp of design more of a permanent mental habit than a fun but distant memory. The RSA will be interviewing the participants again at intervals during the year ahead to assess what has been retained.

In the meantime, formalising the network of participants, tutors, presenters and other stakeholders engaged by the workshop and other activities under the RSA Design & Rehabilitation project is an important step. An internet networking site, and/or a database will be vital for the circulation of information about design resources and opportunities. This network could function both in supporting learning and practice in design for the members, and as an organ to raise awareness of inclusive design.

Homework, or guidance on how to continue the habits of observation and analysis and opportunity-spotting after the workshop, should also be devised; perhaps a short set of simplified versions of the workshop exercises applicable to daily life. The imperative of embedding design-thinking relates closely to other RSA Projects. The Social Brain project investigates how cognitive or behavioural self-consciousness can help to form good decision-making habits, and how, in turn, these habits can become contagious through social influence.

Most of the participants reported an increase in confidence after the workshop. Before the workshop they had been asked to name their greatest challenges and rate their confidence in overcoming these challenges on a scale of 1-10. Afterwards, all were disinclined to rate their confidence on a scale of 1 to 10 against their rating before the workshop, but most took pains instead to find a form of words for the change in confidence that they felt. The detailed feedback above contains several of these statements.

It must, however, be acknowledged that most of the participants could probably be described anyway as quite confident, independent people well-adjusted to their injury, and that the workshop did *not* succeed in increasing the confidence of the least confident member of the group, the one who rated her confidence in finding a new purpose in life very low.

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*“Design gets incomprehensible and exclusive when it is based on values so subjective that only the originator can argue its case. A good way to tell if someone has understood something is to get them to explain it to someone else”.*

— Pascal Anson



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The experience was more enjoyable and the learning more effective for people whose confidence was already relatively high.

This distinction is of acute importance to Back Up, who deliberately strive to encourage people still in the process of adjusting to life with an injury to do their courses, people who have “a lot to gain in terms of basic everyday confidence”. A regular design course would likely need to anticipate the needs of a less resilient group than the participants in the RSA workshop. Stef Cormack suggested that more intensive ‘bonding’ at the beginning of the course could help people build relationships and feel comfortable in the group, as well as information and telephone support that emphasised the nature of the teaching.

Addressing different confidence levels also underscores the need to balance the general and the specific in the way that the course is described: perhaps ‘an increase in confidence’ is too expansive an ambition unless qualified by the specific areas in which a participant can expect to increase their confidence.

It would be very difficult to enumerate these areas in simple terms. Participants in this workshop became more confident in, for example, discerning repetitions of visual phenomena (100 examples of the same thing); recognising a design decision and the reason behind it (why is the product or environment the way it is?); analysing the virtues or deficiencies of a product or environment (what’s right or wrong about it?); and turning abstract qualities into physical features (if tragedy, relaxation, ambition, theft, sarcasm, etc. were an object or place, or even a drink, what would it be like?). These convolutions are the reason that the insights and processes of design are so often summarized by the loose phrase ‘design-thinking’. Again, the inclusion of a single exercise that applies observation, analysis and creativity to a daily life-challenge could give clarity and specificity to the course description, and diminish the risk of over-promising.

### **An effective and replicable workshop format**

One of the RSA’s objectives was to create a prototype design workshop that Back Up could use as the basis for a regular course. Back Up are satisfied that the key ingredients for such a design course have been given a very useful work-out in this exercise and have already suggested possible modifications. A more prominent leadership role for one of the participants, eg the Back Up volunteer group leader, might narrow the gap in experience and hierarchy between the tutors and the participants. One of the participants from the RSA workshop could feasibly be trained as a group leader for the next course. Ideally, a spinal cord-injured professional designer or design tutor would be involved in delivering the course, rather than simply attending as a guest speaker.

There will be quite a wide range of candidates for the role of specialist service provider, to teach the design skills. In the light of the comments above, Back Up, or any other course provider would need to form an opinion about the extent to which the course should focus on creative thinking or practical design, and contract a service provider accordingly. The RSA’s wider objective was to prototype a design workshop that could be run with other groups of people who need to be resourceful, or for whom independence is a challenge. While this workshop was broadly effective in raising participants’ critical awareness of design and in giving them a process by which to generate creative ideas and refine them into things or places, the connection between design, resourcefulness and self-reliance remained somewhat indirect and has coalesced as a relatively loose concept of enhanced ‘agency’, confidence and psychological independence.

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*The experience was more enjoyable and the learning more effective for people whose confidence was already relatively high. A regular design course would likely need to anticipate the needs of a less resilient group.*

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*Might a sense of agency equally have been acquired by three days studying law, self-defence or the history of the democratic process? Design can only be distinguished here by an insistence on material knowledge; on understanding the properties and influence of things and places in order to exert control over them.*

This raises the question of whether an enhanced sense of agency might equally have been acquired by three days studying law, self-defence or the history of the democratic process. Design can only be distinguished here by an insistence on material knowledge; on understanding the properties and influence of things and places in order to exert control over them.

For the RSA's purposes, the workshop needs to be slightly reframed as a design and resourcefulness workshop; challenging but achievable by means of perceptual and reasoning skills that belong pre-eminently to design because they depend upon this material understanding.

### **Next steps**

As a result of the workshop and their involvement in the greater RSA Design & Rehabilitation project, Back Up is considering design as a new course.

The RSA is in discussion with seven of the eleven UK spinal injury centres about running a series of design workshops for inpatients and members of the local community of spinal cord-injured people, in partnership with the best local universities teaching design.

The RSA Design team will explore the idea of generating the Design & Rehabilitation network as described above.

The RSA is looking for other groups with whom to run the design and resourcefulness workshop, revised with the knowledge gained in this first exercise and customised to the particular needs of the group. A comparative longitudinal study has been recommended, using metrics for resourcefulness to determine the effect of the design workshop on individuals' personal resourcefulness, against other individuals who haven't done the workshop.

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## APPENDICES

### Appendix 1: Workshop e-flyer text

*This was posted on the websites of Back Up and the Spinal Injuries Association, and circulated to the eleven UK national spinal injury centres, plus the RSA's database of stakeholders in the Design & Rehabilitation project.*

#### Unlock your creativity and see the world in a new way with design!

The Royal Society of Arts and the Back Up Trust have joined forces on a new idea: creative design training for people with spinal cord injuries.

Design is deciding what something is going to be like and how it's going to work. The 'something' can be a product like a telephone, an environment like a kitchen, a diagram like a timetable, or a service like public transport or banking. People trained in design are practised in creative thinking and problem-solving and they have methods and tools that everyone can use.

We believe that these methods and tools can help to rebuild confidence and independence after a life-changing injury.

Supported by Back Up, the RSA are running their first 3-day residential workshop in creative design for eight spinal cord-injured people from 2–4 November 2010 at the RSA in central London. Under the guidance of three professional designers, you will participate in activities to unlock your creativity and help you see the world with the practical optimism and resourcefulness of a designer. The course is divided into three day-long sections: observation, analysis and opportunity. No experience of design is required; and you do not need to be able to draw!

The workshop leaders are the designer **Pascal Anson** ([www.iampascal.com](http://www.iampascal.com)), RSA Director of Design **Emily Campbell** ([www.thersa.org](http://www.thersa.org)) and **Yan-ki Lee**, architect and Research Fellow at the Royal College of Art Helen Hamlyn Centre ([www.hhc.rca.ac.uk](http://www.hhc.rca.ac.uk)). Three eminent spinal cord-injured designers, **Danny Brown** ([www.danielbrowns.com](http://www.danielbrowns.com)), **David Constantine** ([www.motivation.org.uk](http://www.motivation.org.uk)) and **Adam Thomas** ([www.dmkbb.co.uk](http://www.dmkbb.co.uk)) will also join the workshop to tell their inspiring stories and meet the participants in this important new venture.

The workshop is free, including accommodation and meals, but participants need to fund and arrange their own travel to the hotel in London. We can accommodate personal assistants, but participants who require an assistant need to bring their own. If you would like to be considered as a participant, please email [emily.campbell@rsa.org.uk](mailto:emily.campbell@rsa.org.uk).

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## Appendix 2: Participants' information describing the course (excerpt)

*This was sent to all the registered participants one week in advance of the workshop.*

### Welcome!

We're delighted that you're coming on this course which is an exciting new venture by the RSA and the Back Up Trust.

The workshop has three aims. Firstly to inspire you to think creatively like a designer. Secondly, to increase your confidence, independence and resourcefulness. Thirdly, to establish an effective creative design workshop format that the RSA and Back Up can replicate with other groups.

The rationale for the workshop is that design is a structured approach to creative problem-solving that can address the loss of confidence and motivation that often results from sudden injury, and it can contribute to independence.

The format is a three-day workshop in which eight spinal cord-injured people take on the role of a designer. This is not training in the rigorous sense, but an experience in which we identify opportunities for design — things that could be different and work differently — and develop some new ideas. We aim to help you see how the built and manufactured environment around you is designed and designable; and how to start designing.

We will guide you in using your unique observation and analysis to design things. Inevitably, you will bring particular needs and knowledge to bear on all the exercises in the workshop, and the sessions culminate in a design challenge to which each of you will create a personal solution. The point of the workshop, however, is not necessarily to design for SCI-related needs, but for you to design anything you want. We believe it is this sense of general and transferable creative capacity that builds confidence, rather than a one-off success in developing something like a new wheelchair widget or assistive technology device.

The three days, themed around OBSERVATION, ANALYSIS and OPPORTUNITY, are made up of a series of fun and quite challenging visual and verbal tasks. You do not need to be able to draw, although you may surprise yourself by how much you can visualise!

We have a spinal cord-injured guest designer visiting the workshop on each day to give their perspective. The last of these, David Constantine, is receiving the RSA Bicentenary Medal at the RSA in the evening Thursday 4 November — the last day of the workshop. You are all invited to the Medal presentation and talk and to a small informal buffet supper in David's honour afterwards.

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## Appendix 3: The context and rationale for the RSA's Design & Rehabilitation project

The goal of rehabilitation after spinal cord injury is autonomy, or as great a degree of autonomy as possible. This goal includes independent living, fulfilment and social participation, including employment. Because the challenge of autonomy is constant for people who are paralysed, there is always a need for new ideas for how self-reliance might be achieved.

The essence of design is creative, adaptive, problem-solving. People trained in design have methodologies for addressing all kinds of problems, from accommodating physical needs in furniture, vehicles and products, to ordering untidy and complex information in graphic communication and service systems. The problem-solving methods habitually used by designers have the potential to help spinal cord-injured people achieve greater autonomy.

Furthermore, spinal cord injury is life changing and requires creativity. Design as a discipline, or thought process, can address the dramatic loss of confidence and diminished motivation that results from a sudden physical impairment. As a structured way of approaching problems, design is a useful methodology for re-building confidence.

Between 800 and 1200 people injure their spinal cord in the UK every year, roughly three quarters of them men: a total of approximately 40,000 people<sup>12</sup>. Working with this contained group on a new model of design training focused on self-reliance and resourcefulness will yield knowledge with potential for widespread replication among other groups of people whose independence, self-realisation and social participation are challenged.

The Department of Health's Transforming Community Equipment Services initiative emphasises self-help and alternatives to the public provision of simple and complex aids. In this context spinal cord-injured and other disabled consumers will be better equipped to specify and purchase their own equipment, and to influence the supply chains of manufacturing and retail, if they understand and appreciate design.

Although there is an appreciable academic discourse around design for disability, the majority of professional designers are unlikely to make designing for disabled people a priority when under commercial pressure. Commercialisation of new ideas by manufacturers and retailers remains sluggish in spite of growing numbers of older and disabled customers. The dismally limited range of products for disabled people has prompted initiatives like the Helen Hamlyn Research Centre and Enabled by Design. The RSA's insight is that there is an opportunity for disabled people themselves to step into the breach — an opportunity which might be particularly exciting to those whose options have been suddenly and dramatically limited by spinal injury, and who are frequently at early stages in their careers.

Although some rehabilitation specialists have proposed that the design training would best suit spinal cord-injured people who are discharged and have returned to independent life, others have noted that many inpatients struggle with the boredom and monotony of inpatient life which can reinforce depression. Spinal injury units need activities for evenings and weekends which can give relief and stimulation to people who are mentally, if not physically, independent.

Spinal cord-injured people post-discharge are relatively well-served with opportunities to engage in sport and physical activity, but programmes which convene them to share knowledge and experience of technical or professional issues are more scarce. There are outreach programmes in ICT and assistive technology, general work skills courses covering interview techniques, employment rights and CV writing; and courses in drama for personal skills development; but nowhere has design been identified as a key component of autonomy worthy of specific training.

The message of design is optimistic: it suggests that problems have solutions, and that there are methods and tools available for us to help find these solutions. The purpose of this introductory design training is to give confidence and comfort to patients facing a life in which independence may be an extreme challenge, and by extension, for their families and carers. Many who have survived a devastating injury will have come to realise, out of necessity, the greatest design lesson of all: that you can change yourself. The objective of this project is to extend that optimism to many more by showing how design can increase confidence and the will to adapt.

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<sup>12</sup> Source: Spinal Injuries Association/British Association of Spinal Cord Injury Specialists (BASCIS)



